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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/23/2003

Yoshiaki Sakagami

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32294

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EXAMINER

ARMSTRONG, ANGELA A

ART UNIT

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2626

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/667,964	Applicant(s) SAKAGAMI ET AL.	
	Examiner ANGELA A. ARMSTRONG	Art Unit 2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to the amendment filed September 9, 2008, amending claims 1, 11, and 15. Claims 1 and 4-25 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 4-12 and 14-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bancroft (US Patent Application Publication No. 2002/0165790) in view of Hull (US Patent No. 6,976,032).
2. Regarding claim 1, Bancroft discloses a receptionist robot system [Figures 11-17; paragraph 0031-0033 -- mobile robot system; paragraph 0147-0197], comprising: a traveling robot [paragraph 0031 – mobile robot] including autonomous traveling means for traveling autonomously [paragraph 0037] and recognition means for recognizing a guest [paragraph 0040, 0078 – system determines customer's identification]; and management database means [paragraphs 0147-0197] adapted to communicate with the robot and provided with a database containing identification information to identify the guest recognized by the recognition means; wherein the guest is identified at least according to information obtained by the recognition means and management database means; wherein the traveling robot further comprises dialog means [paragraph 0072-0077 – user interface, speakers and microphone and the system provides

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for the user to input speech and can output audible responses] for communicating with the guest recognized by the recognition means and response means for determining the contents of communication with the guest according to an identity of the guest recognized by the recognition means and associated information from the management database means; and the response means is configured to determine an action to conduct the guest to a prescribed facility according to the utilization status of the facility [paragraph 0126-0129; 0172-0176; – the robot greets the customer and can serve as a mobile kiosk. Additionally, the robot can provide customer interaction such as show map, print map, direct customers or have customers to follow to a particular location. Bancroft provides a means of identifying the user, but does not specifically teach the method of identifying the user is via image recognition. However, identifying a person via cameras and image recognition was well known. Hull discloses a networked peripheral for visitor greeting, identification, biographical lookup and tracking, specifically teaching image recognition, personalized greeting for the visitor, and tracking and storing of data regarding visits (col. 1, line 42 to col. 3, line 67; col. 4, line 31 to col. 5, line 35; col. 6, line 30 to col. 7, line 20; col. 10, line 1 to col. 12, line 11) and suggests the system provides for improved techniques for automating the collecting of information about visitors. Therefore, it would have been obvious to modify the system of Bancroft to implement the image recognition techniques, as suggested by Hull, for the purpose of improving the automated information collection techniques, as also suggested by Hull.

3. Regarding claim 4, the combination of Bancroft and Hull teach the management database means is adapted to retain and update individual personal information and schedule information (col. 1, line 42 to col. 3, line 67; col. 4, line 31 to col. 5, line 35; col. 6, line 30 to col. 7, line 20).

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4. Regarding claim 5, the combination of Bancroft and Hull teach the management database means is adapted to update the individual personal information according to a result of communication with the guest conducted by the response means (col. 1, line 42 to col. 3, line 67; col. 4, line 31 to col. 5, line 35; col. 6, line 30 to col. 7, line 20).

5. Regarding claim 6, the combination of Bancroft and Hull teach the recognition means is adapted to select a candidate or determine a priority order of a plurality of candidates according to the schedule information of the management database means (col. 1, line 42 to col. 3, line 67; col. 4, line 31 to col. 5, line 35; col. 6, line 30 to col. 7, line 20; col. 10, line 1 to col. 12, line 11).

6. Regarding claim 7, the combination of Bancroft and Hull teach the recognition means comprises a camera (col. 6, line 30 to col. 7, line 20).

7. Regarding claim 8, the combination of Bancroft and Hull does not specifically teach a stereoscopic camera. However, implementation of a stereoscopic camera in an image recognition system was well known, and it would have been obvious to use stereoscopic cameras, so as to ensure quality images are obtained for accurate recognition of the person.

8. Regarding claim 9, the combination of Bancroft and Hull teach the recognition means includes a microphone [p00137].

9. Regarding claim 10, the combination of Bancroft and Hull does not specifically teach a stereophonic microphone. However, implementation of a stereophonic microphone in a speech recognition system was well known, and it would have been obvious to use stereophonic microphone, so as to ensure quality speech signals are obtained for accurate recognition of the person.

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10. Regarding claim 11, Bancroft discloses a receptionist robot system [Figures 11-17; paragraph 0031-0033 -- mobile robot system; paragraph 0147-0197], comprising: a traveling robot [paragraph 0031 – mobile robot] including autonomous traveling means for traveling autonomously [paragraph 0037] and recognition means for recognizing a guest [paragraph 0040, 0078 – system determines customer's identification]; and management database means [paragraphs 0147-0197] adapted to communicate with the robot and provided with a database containing identification information to identify the guest recognized by the recognition means; wherein the guest is identified at least according to information obtained by the recognition means and management database means; wherein the traveling robot further comprises dialog means [paragraph 0072-0077 – user interface, speakers and microphone and the system provides for the user to input speech and can output audible responses] for communicating with the guest recognized by the recognition means and response means for determining the contents of communication with the guest according to an identity of the guest recognized by the recognition means and associated information from the management database means; and the response means is configured to determine an action to conduct the guest to a prescribed facility according to the utilization status of the facility [paragraph 0126-0129; 0172-0176; – the robot greets the customer and can serve as a mobile kiosk. Additionally, the robot can provide customer interaction such as show map, print map, direct customers or have customers to follow to a particular location. Bancroft provides a means of identifying the user, but does not specifically teach the method of identifying the user is via image recognition. However, identifying a person via cameras and image recognition was well known. Hull discloses a networked peripheral for visitor greeting, identification, biographical lookup and tracking, specifically teaching image

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recognition, personalized greeting for the visitor, and tracking and storing of data regarding visits (col. 1, line 42 to col. 3, line 67; col. 4, line 31 to col. 5, line 35; col. 6, line 30 to col. 7, line 20; col. 10, line 1 to col. 12, line 11) and suggests the system provides for improved techniques for automating the collecting of information about visitors. Therefore, it would have been obvious to modify the system of Bancroft to implement the image recognition techniques, as suggested by Hull, for the purpose of improving the automated information collection techniques, as also suggested by Hull. Bancroft does not teach the management database means is adapted to retain and update individual personal information and schedule information or that the management database means is communicably connected with input means for inputting the schedule information and notification means for notifying the arrival of the guest to a host according to the action of the response means with respect to the guest. Hull discloses retaining and updating individual personal information and schedule information, inputting schedule information and notification means for notifying the arrival of the guest to a host according to the action of the response means with respect to the guest (col. 1, line 42 to col. 3, line 67; col. 4, line 31 to col. 5, line 35; col. 6, line 30 to col. 7, line 20; col. 10, line 1 to col. 12, line 11). It would have been obvious to one of ordinary skill at the time of the invention of Bancroft to provide for retaining and updating individual personal information and schedule information, inputting schedule information and notification means for notifying the arrival of the guest to a host according to the action of the response means with respect to the guest, as suggested by Hull, because such a modification would allow visitors or guests to a facility to be greeted and announced without the assistance of a human, thereby allowing a company more efficient means of utilizing employees.

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11. Regarding claim 12, the combination of Bancroft and Hull discloses the recognition means is adapted to forward a recognition result to the management database means, and the management database means is adapted to update the individual personal information according to the forwarded recognition result (col. 1, line 42 to col. 3, line 67; col. 4, line 31 to col. 5, line 35; col. 6, line 30 to col. 7, line 20; col. 10, line 1 to col. 12, line 11).

12. Regarding claim 14, the combination of Bancroft and Hull teach the management database means is adapted to retain and update a utilization status of a facility located within a traveling range of the robot [paragraph 0147-0197].

13. Regarding claim 15, the combination of Bancroft and Hull discloses the recognition means detects the guest as a moving object and when it is determined that the guest has approached to a prescribed distance, detects a face of the guest to identify the guest by using the detected face (col. 1, line 42 to col. 3, line 67; col. 4, line 31 to col. 5, line 35; col. 6, line 30 to col. 7, line 20; col. 10, line 1 to col. 12, line 11).

14. Regarding claim 16, the combination of Bancroft and Hull discloses the management database means is adapted to retain and update the individual personal information of the guest (col. 6, line 30 to col. 7, line 20; col. 10, line 1 to col. 12, line 11).

15. Regarding claim 17, the combination of Bancroft and Hull discloses the management database means or robot is provided with an answer-back function in connection with the notification means (col. 1, line 42 to col. 3, line 67; col. 4, line 31 to col. 5, line 35; col. 6, line 30 to col. 7, line 20; col. 10, line 1 to col. 12, line 11).

16. Regarding claim 18, the combination of Bancroft and Hull teaches the recognition means comprises a camera (col. 6, line 30 to col. 7, line 20).

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17. Regarding claim 19, the combination of Bancroft and Hull does not specifically teach a stereoscopic camera. However, implementation of a stereoscopic camera in an image recognition system was well known, and it would have been obvious to use stereoscopic cameras, so as to ensure quality images are obtained for accurate recognition of the person.

18. Regarding claim 20, the combination of Bancroft and Hull teach the recognition means includes a microphone [p00137].

19. Regarding claim 21, the combination of Bancroft and Hull does not specifically teach a stereophonic microphone. However, implementation of a stereophonic microphone in a speech recognition system was well known, and it would have been obvious to use stereophonic microphone, so as to ensure quality speech signals are obtained for accurate recognition of the person.

20. Regarding claims 22 and 23, the combination of Bancroft and Hull teach wherein the management database means searches for an appointment of the identified guest by referring to the schedule information (col. 4, line 31 to col. 5, line 35; col. 10, line 1 to col. 12, line 11), and the traveling robot further comprises response means for determining an action to conduct the guest according to the search result of the management database means [paragraph 0126-0127; 0172-0176].

21. Regarding claims 24 and 25, the combination of Bancroft and Hull teach wherein the traveling robot further comprises response means for determining an action to be executed depending on a particular condition by referring to a scenario table which defines various actions of the traveling robot and an individual personal map that manages human information surrounding the traveling robot [paragraph 0126-0127; p0172-0176].

22. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bancroft in view of Hull as applied to claim 11 above, and further in view of Chen (US Patent No. 6,144,180).

23. Regarding claim 13, Bancroft and Chen do not teach the traveling robot is capable of traveling inside a building including a stairway according to the map information. However, a mobile robot having the capability to navigate stairs was well known. Chen discloses a system for a mobile robot in which the robot is able to move on various types of terrains, including stairs (Figure 7). Therefore, it would have been obvious to one of ordinary skill at the time of the invention to modify the mobile robot kiosk system of Bancroft and Hull, to have the robot traverse stairs, as suggested by Chen, for the purpose of ensuring the robot is able to escort a visitor to any location of the facility, regardless of the terrain or landscape.

Response to Arguments

24. Applicant's arguments with respect to claims 1 and 4-25 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the previous examiner should be directed to ANGELA A. ARMSTRONG whose telephone number is (571)272-7598. The examiner can normally be reached on Monday-Thursday 11:30-8:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick N. Edouard can be reached on 571-272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Angela A Armstrong/
Primary Examiner, Art Unit 2626